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# Assessment of the Soviet Food Program

Robert B. Koopman

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# ABSTRACT

The Soviet food program, officially introduced in 1982, has had no significant impact on Soviet agriculture. Rising production costs and slow growth in per capita production of many agricultural products remain the rule today. Poor coordination and cooperation between agriculture and its related sectors continue. Prospects for improvement in production depend upon short-term, nonsystemic factors rather than dramatic changes in the basic Soviet system under which agriculture operates.

KEYWORDS: USSR food program, USSR agricultural production, USSR agriculture policies.

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## SUMMARY

The Soviet food program, officially introduced in May of 1982, aims to supply the population with more and better quality foodstuffs and improve efficiency in the agro-industrial sector. The program is a reaction to the slow growth and rapidly rising costs of production in the agricultural sector during the seventies. In addition, the U.S. grain embargo of 1980 moved the Soviet Union to seek increased self-sufficiency in agricultural production, particularly in grains, reaffirming the need for improved domestic agricultural performance. The resulting food program reorganized the agricultural administrative apparatus and pledged more financial support for the development of the agricultural sector.

The administrative reorganization effectively recentralized the decisionmaking process in agriculture, with policymakers claiming that this would increase enterprise autonomy while increasing centralized coordination and cooperation. Financial support for the agro-industrial sector has increased, particularly through increases in procurement prices and subsidies. But, agriculture's share of investment has not increased over past years. The food program's changes in administrative and economic policies fail to address those factors identified by Western analysts as the major causes of inefficiency in Soviet agriculture. Soviet agriculture will continue its slow and costly growth as long as these systemic inefficiencies remain. Food program changes occur at the margin as the Soviets attempt to fine tune the existing system; hence, the changes produce only marginal improvements in agricultural performance.

Food program reforms have not significantly improved coordination and cooperation between agro-industrial sectors. Production of a large number of agricultural commodities will not meet the planned target for average production during the 11th 5-year plan (1981-85), and considerable increases in growth rates will be needed to reach the 12th 5-year plan (1986-90) figures. Although failing to attain long-term plan figures is not unusual in Soviet agriculture, the fact that production targets have been strongly associated with the food program provides one possible benchmark of its success or failure. Growth in production costs has not yet slowed to any significant extent, a critical problem for Soviet agriculture.





# Assessment of the Soviet Food Program

Robert B. Koopman

## INTRODUCTION

The Soviet food program, introduced in May 1982, was described by its authors as a "radical" solution to the "food problem" facing the Soviet Union. 1/ The food problem was characterized by a lack of improvement in per capita diets even though wages were rising. Between 1960 and 1975, for example, per capita meat consumption increased from 48 to 57 kilograms per year. But, consumption remained at this level between 1975 and 1982, despite average wage increases of 22 percent over the period and an income elasticity of demand estimated at 0.6 to over 1. Availability of other consumer goods, although increasing substantially, has also lagged behind potential demand.

The food program's stated goal "is to ensure the reliable supply of the country's population with foodstuffs in the shortest possible time." 2/ Its policies are aimed at increasing domestic agricultural production, limiting reliance on imports of food and feeds, and slowing the growth in production costs. The program does not attempt to slow demand growth. This paper briefly discusses main points of the food program and assesses the progress of the program in its first 3 years.

Roots of the Soviet food problem lay with the declining growth rate for domestic gross agricultural production in the late seventies, despite substantial imports of agricultural raw materials, including agrochemicals. Increasing domestic subsidies on agricultural commodities and inputs also contributed. The USSR, generally a net grain exporter until 1972, imported a net average of 13 million tons of grain annually in 1972-77. These imports rose to an annual average of 31 million tons per year in 1978-80. Total net agricultural imports increased 2.2 times in 1978-80, rising from 5.4 to 12 billion rubles. Although grain's share of total net agricultural imports increased from 33 percent to 40 percent over this period, dramatic increases also occurred in meat and meat products, sugar, oilseed meal, butter, and vegetable oil imports.

Growth in gross agricultural output fell from an average 3 percent per year between the 1965-67 and 1971-73 to an average 0.8 percent per year between 1974-76 and 1980-82 (table 1). 3/ The cost of producing 100 rubles of agricultural output was 70 rubles during 1966-70, 89 rubles during 1971-75, and 111 rubles during 1976-80, according to Soviet sources. 4/ Agricultural production costs grew at an average rate of 4.7





Table 1--Gross agricultural output

Year	Gross output	Crops	Livestock
<u>Billion rubles</u>			
1976	120.1	57.6	62.5
1977	124.9	56.6	68.4
1978	128.3	59.4	68.9
1979	123.5	55.4	68.1
1980	122.0	54.3	69.0
1981	120.0	53.3	67.5
1982	127.4	58.2	69.2
1983	135.2	61.6	73.6
1984	135.0	60.4	74.6

Source: All data from various volumes of Narodnoye khozyaystvo. In 1973 prices.

percent per year, while output growth had slowed to less than 1 percent per year, according to these statistics. 5/

Poor cooperation and coordination between the various sectors of the agro-industrial complex and the Soviets' inability to provide meaningful labor incentives contributed to agriculture's poor performance. The organizational and managerial policies of the Soviet model have become more limiting as Soviet agriculture has grown in size and complexity. These policies emphasize output targets, but furnish insufficient incentives to minimize input use. Regional self-sufficiency is a goal but there is insufficient investment in rural transportation infrastructure. These policies also administratively set prices that are rarely changed and may fail to reflect true economic costs. The performance indicators associated with these policies do not take into account quality and they retard implementation of technological innovations.

Meaningful labor incentives are lacking because quality consumer goods are in short supply and worker incomes tend to be equal despite differences in capabilities and effort. The incentive problem affects farmworkers, as well as those supplying farm inputs and services. 6/ Rural wages have grown rapidly in the last 25 years and rural/urban wage differences have narrowed. But the lack of consumer goods and services remains more acute in rural areas, hastening the outmigration of the most productive workers.

#### THE FOOD PROGRAM

The food program, outlining Soviet organizational and economic policy for agriculture and related sectors through 1990, strictly emphasizes the production side; there are no changes in consumer pricing policies or other demand-related policies. 7/ It contains the foundation of a possible major organizational and managerial restructuring in that it established coordinating bodies, Rayon (district) Agro-industrial





Associations (RAPOs), to help resolve interbranch difficulties in cooperation and coordination. 8/ According to Brezhnev, these RAPOs are...

... to link and combine agricultural work with the work of the servicing sectors in industry, transportation and trade and to subordinate all of their activities to the common end objective--the production of high quality foodstuffs and to bring them to the consumer. 9/

The program also highlights the need for increased decentralization of decisionmaking and individual initiative at the farm level, pointing out that "red tape" and "petty supervision" of the farms by ministries and higher level organizations must be eliminated. 10/ At the same time, the organizational reforms were said to provide the means for improving central coordination of agricultural production while increasing managerial initiative and autonomy from interference by numerous ministries and agricultural organizations. Farms and other agricultural enterprises have historically interacted with a large number of ministries, agricultural administrations, central planners, and service organizations. As Litvin describes it,

Enterprises under the USSR Ministry of Agriculture -- kolkhozes and sovkhozes -- receive plan quotas from the USSR Ministry of Procurement: and the machinery, fertilizers, and other resources needed to fulfill the plan are provided by the USSR State Committee for the Supply of Production Equipment to Agriculture. Thus the planning and material and technical supply functions for industry and agriculture are separate both in organizational and departmental respects. 11/ (See fig. 1.)

Agricultural producers suffered at the hands of the service organizations and procurement agencies, while ministries and agricultural administrations issued excessive and/or conflicting orders. While each ministry still prepares plans, the RAPO's and other coordinating bodies are charged with minimizing conflicts.

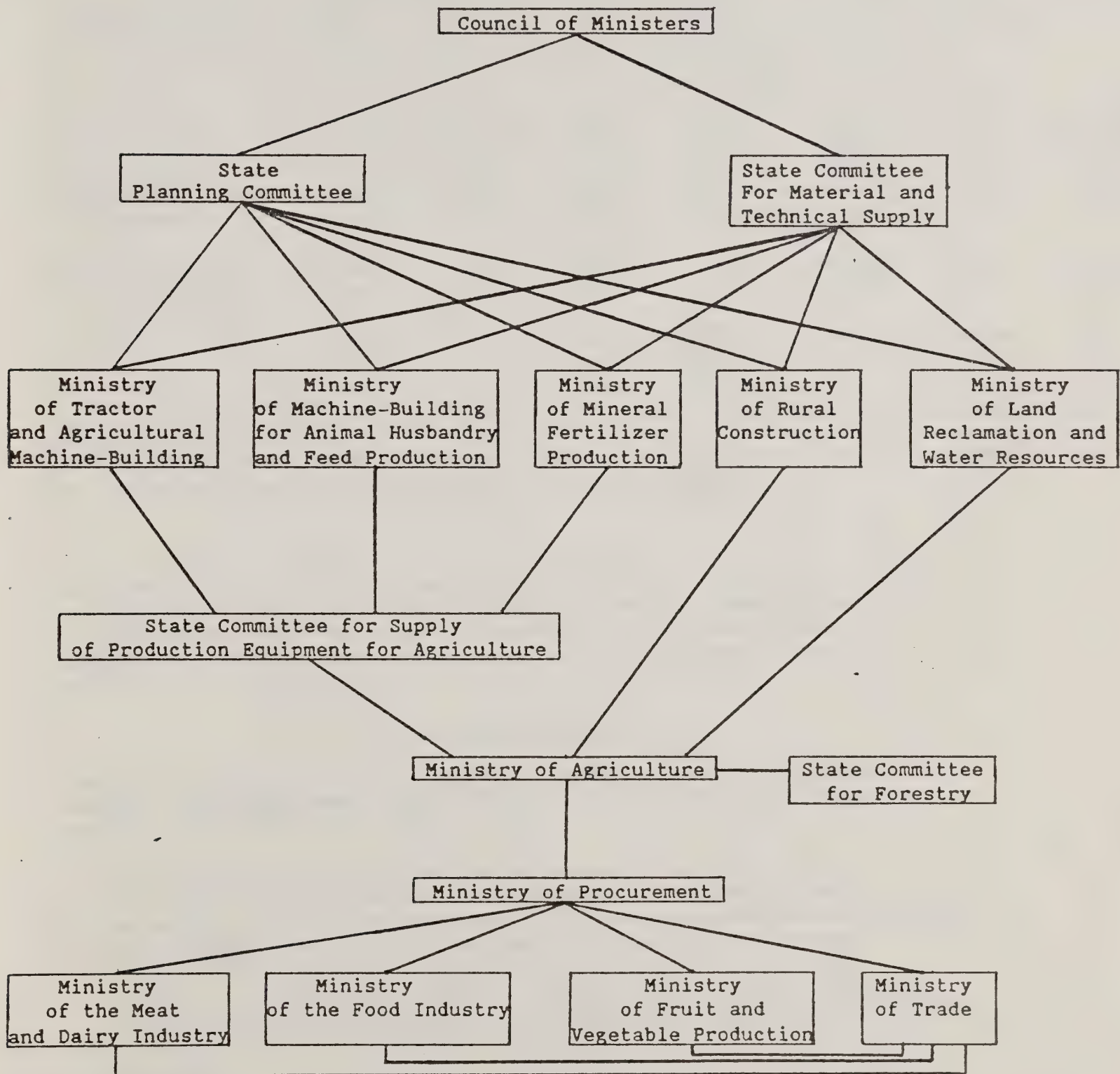
The food program also addressed various economic issues and indicators. The program, setting the investment policy for the agro-industrial sector through 1990, emphasized the balanced development of the individual agro-industrial complex (APK) components through intensified use of existing resources, improvement in the existing rural living conditions, and the technical retooling and modernization of all sectors of the agro-industrial complex. 12/ The program also emphasized increased farm profitability and its role in allowing farms to use their own resources for investment. This resulted in a substantial increase in procurement prices as of January 1, 1983, as well as other types of aid. 13/ To improve labor productivity, the program endorsed extensive use of the brigade and contracting method as a way to provide greater work incentives. The expansion of payments-in-kind was proposed, in part reflecting the unavailability of alternative consumer goods in rural areas. 14/

Numerous production targets for agricultural outputs and inputs were given in food program documents, including a number of specific 1981-85





Figure 1:  
Administrative Structure of the USSR Agro-industrial Complex



Source: Valentin Litvin, The Soviet Agro-industrial Complex: Structure and Performance, Falls Church, Va., Delphic Associates Inc., 1985.



Table 2--USSR: Average plans and results of agricultural production

Commodity	1971-75		1976-80		1981-85		1986-90
	Plan	Actual	Plan	Actual	Plan 1/	Actual 2/	Plan
<u>Million tons</u>							
Grain	195.0	181.6	220.4	205.0	238-243	178.0	250-255
Sunflowerseed	7.0	6.0	7.6	5.3	6.7	4.8	7.2-7.5
Sugarbeets	87.4	76.0	96.6	88.5	100-103	77.0	102-103
Potatoes	106.0	89.9	102.1	82.6	87-89	81.0	90-92
Vegetables	24.7	22.8	28.1	25.9	33-34	30.0	37-39
Fruits, berries	NA	12.4	16.4	15.2	18.5-20	18.2	24-26
Meat	14.3	14.0	15.5	14.8	17-17.5	16.1	20-20.5
(slaughterweight)							
Milk	92.3	87.4	96.2	92.7	97-99	94.6	104-106
<u>Billions</u>							
Eggs	46.7	51.4	60.8	63.1	72	74.2	78-79

NA = not available.

1/ As reported in the May 1982 publication of "The USSR Food Program to 1990."

2/ Using reported 1981-84 results and 1985 estimates.

and 1986-90 targets for important products (table 2). The substantial increases implied by these targets suggest that the organizational reforms and economic assistance of the food program were expected to provide an immediate and significant stimulus to the agro-industrial sector.

#### Organizational Changes

The RAPOs are expected to improve the planning process by taking into account the varying needs of all APK participants, as well as those of society. The food program stated that,

The existing administrative system proved to be excessively cumbersome and uncoordinated and the size of the administrative apparatus increased unjustifiably. The necessary combination between sectorial and territorial planning principles was not ensured everywhere. A considerable share of the farms are under the jurisdiction of oblast, republic, and interrayon organizations and numerous trusts and associations; the rayon unit has been weakened. 15/

in addition,

...Goskomsel'khoztekhnika, Soyuzsel'khozkhimiya, and the USSR Ministry of Reclamation and Water Resources and the construction, procurement, transportation and other organizations servicing agriculture are poorly related to the kolkhozes and sovkhoses organizationally, and economically. 16/





Thus the RAPOs' main objective is to overcome and eliminate these difficulties. 17/

RAPOs consist of representatives from kolkhozes, sovkhozes, interfarm organizations, and other agricultural related enterprises. RAPO membership is not mandatory. A RAPO's main administrative unit is the council of associations, membership of which includes kolkhoz chairmen, sovkhoz directors, and managers of such related enterprises as selkhozkhimiya and selkhoztekhnika. The head of the rayon agricultural administration is the chairman of the council of associations. All other members are chosen by the rayon Soviet of the peoples deputies from member farms and enterprises. In addition, the food program states that the working apparatus of the council is that of the "sum total of the currently operating rayon agricultural administrations, and enterprises and organizations servicing the kolkhozes and sovkhozes." 18/ The "enterprises and organizations within the association will preserve their economic autonomy, their rights as juridical persons and their departmental affiliation." 19/

In 1984 there were 3,109 RAPO's. The average RAPO consisted of 31 members, 16 of which were farms, 3 were agricultural related industries, 6 were service organizations, 2 were construction organizations, and 4 miscellaneous. Each RAPO employed an average of 10,814 workers in its member enterprises.

The 1982 food program also established RAPO-like administrative organizations at the oblast, kray, and autonomous republic level. These associations contain APK participants who operate at these higher administrative levels. As with the rayon level organization, the working apparatus of these councils is the respective existing agricultural administrations of the oblast or kray executive committee, or the ministry of agriculture of the republic level.

Two additional levels of administrative apparatus were also established: at the union republic level, a Commission on the Problems of the Agro-industrial Complex, and at the all-union, or highest, level a Commission of the Presidium of the USSR Council of Ministers on Problems of the Agro-industrial Complex. Members of the Presidium include the USSR Ministers of Agriculture, the Fruit and Vegetables Industry, Procurement, Meat and Dairy Industry, Food Industry, Reclamation and Water Resources, the Chairman of the USSR State Committee for Supply of Production Equipment for Agriculture, the Chairman of the USSR State Committee for Forestry, the Chief of the USSR Council of Ministers Main Administration of the Microbiological industry, the first deputy chairman of USSR Gosplan, the USSR State Committee of Supply, and the USSR State Committee on Science and Technology. 20/

The RAPO councils establish plan indicators for their member kolkhozes and sovkhozes based on information provided by the farms. The councils then submit draft state purchasing plans for agricultural products to the rayon Soviet. Councils consider the draft plans for agricultural related enterprises within the associations and make proposals to the appropriate superior organ. The councils are charged with distributing state investment funds, budget allocations, credits, and material and technical resources to designated farms and other agricultural enterprises. They may also reallocate, with the agreement of the participating enterprises,





10 to 15 percent of the material and technical resources as well as redistribute surplus state investment funds left unused by state members of the association with the agreement of the appropriate superior department organs.

If requested by individual association participants, RAPO councils may centralize individual production processes and assign such functions to association participants regardless of their departmental affiliation, or establish specialized subunits for such undertakings, based on interfarm cooperation. The councils may set rates, based on established norms, for services and work carried out by association participants, and establish clearing prices for intermediate goods such as cattle and feeds exchanged between kolkhozes and sovkhoses. Otherwise these will be set by the appropriate national or republic organization, with the approval of the state planning authorities. Using suggestions from association members, the councils may also develop long-term plans for the specialization and placement of agricultural commodity production, reception, storage, and processing facilities as well as for repair and technical workshops. If the councils do not take the initiative, the responsibility reverts to the national or republic authorities. In addition, the councils are to create centralized funds for material incentives, socio-cultural measures, housing construction, and production development.

The oblast, kray, and autonomous republic level councils are to perform functions similar to the RAPOs except at higher administrative levels. They also supervise fulfillment of plan targets for production, processing, state purchases, and deliveries of agricultural commodities by members of the agro-industrial sector.

Among the listed assignments for the USSR Council of Ministers Presidium on Problems of the Agro-industrial Complex are the coordination of the various agro-industrial ministries and departments, supervision of these ministries and departments with respect to the fulfillment of the state plan, the procurement of agricultural products, and the delivery of agricultural inputs.

The Presidium also considers annual and long-term development plans for the agro-industrial complex as a whole and its individual members as drafted by the USSR Gosplan. In addition, the food program document mentions the Presidium's need to further develop private auxiliary farms. However, the food program says little about the development or role of private plots and auxiliary farms in the agricultural sector.

#### Economic Changes

The most concrete economic policies introduced under the program involve procurement price increases for agricultural products and debt restructuring to improve farm profitability; the amount and intersectoral distribution of investment funds; tying the performance indicators of industries serving the agricultural sector directly to final output of the farms they serve; and emphasizing the use of the collective contract method for improved labor productivity and remuneration.

Procurement price increases on many agricultural products were introduced on January 1, 1983, in an effort to improve farm profitability. Markups on procurement prices for agricultural goods sold to the state by





unprofitable and low-profit farms were reported to total 16 billion rubles in 1983. 21/ In addition, the USSR State Bank was ordered to forgive 9.7 billion rubles of unsecured farm loans and to postpone without additional interest charges for 10 years the repayment of another 11.1 billion rubles of unsecured loans. 22/ Economically weak kolkhozes are also to receive 3.3 billion rubles per year in additional aid. 23/ The objective of this policy is to have all farms operate at normal profit levels so that they will contribute to their own investment funds. Soviet planners view investments undertaken by farms using their own funds as being more efficient than those projects undertaken using state funds. They believe that overdependence on state sources for investment funds is more costly and requires more bureaucratic interference with farm operations. However, even investment using internally generated funds is tightly controlled by central authorities.

Investment in the agro-industrial sector during the 10th 5-year plan (hereafter FYP) was 240 billion rubles, 33 percent of total investment. The corresponding figures for the 11th FYP is planned at 268 billion rubles, again roughly 33 percent of total investment during this period. A similar percentage is planned for the 12th FYP period. A greater share of this investment is to be allocated to the re-equipment of agriculture with machinery and equipment, as well as rural housing and roads. Agricultural equipment worth 67-70 billion rubles will be delivered to farms in 1980-90, while 15-17 billion rubles worth of technical equipment will go to the food industry sector, state trade, and the consumer cooperatives, according to the food program. 24/ Approximately 160 billion rubles will be invested in rural housing, cultural facilities, and road construction. 25/

A key element of the economic changes under the food program is the use of final agricultural output as a performance indicator for Sel'khoztekhnika and Sel'khozkhimiya. This economic tie is to work in conjunction with the administrative changes to influence these service organizations to provide timely and effective service to the farms. In the past, these organizations have maximized their own performance indicators at the expense of the farms. 26/ Thus wage bonuses for leading personnel and specialists of the service organizations and rayon agricultural administrations are tied to the production of agricultural commodities in the geographic area they serve.

Procurement agencies are now expected to take delivery of agricultural produce directly at the farms and transport it to processing or storage facilities. Farms were previously responsible for transporting produce to the procurement organization receiving point. Thus, all losses and waste during transport or while waiting for acceptance at the procurement point were borne by the farms. Procurement agencies now have a greater interest in preserving the harvest.

The food program also describes a series of changes to improve labor productivity and management in the agro-industrial sector. Increased emphasis is to be placed on the collective contracting method for labor remuneration. This method is expected to increase labor productivity, encourage the conservation of inputs and, hence, lower production costs, as well as expand the practice of payment-in-kind and increase bonuses for higher production profitability. Workers in brigades and teams can now receive up to 15 percent of any above-plan production in the form of





payments-in-kind. Managers are to have more freedom in establishing wages and bonuses for worker brigades and teams working under a collective contract as long as such wages and bonuses do not exceed 1.5 times the planned rate. Wages for workers, specialists, and sovkhos managers are expected to increase by 30 percent during the 11th FYP.

Incentives were established to encourage the release of specialists from administrative positions to direct, practical work. These incentives guarantee their previous average monthly salaries for at least 3 years (up to 5 years if they work for a low or unprofitable farm) and a lump sum payment of between 3 to 5 months of their previous salary. Recent graduates of higher and secondary specialized agricultural schools who are assigned to sovkhoses and state agricultural enterprises may receive up to 6 months' worth of their salary to assist in getting settled.

Various other labor policy changes suggested include improving the cadre education and selection process; ending the practice of "groundless" personnel transfer; slowing the turnover of sovkhos and kolkhoz directors; and transferring managers and specialists of leading farms to economically weak farms.

#### A 1986 ASSESSMENT OF THE FOOD PROGRAM

The Soviet leadership correctly identified a number of the problems inhibiting Soviet agricultural production, including organizational rigidities and lack of worker incentives. Their attempts to correct these problems, however, do not address the underlying causes of the problems: centralized decisionmaking and lack of market-determined prices. Instead, the food program adjustments occur at the margin, trying to fine tune the existing system. Hence, the changes can bring about only marginal improvements in agricultural performance. Thus far, even the marginal improvements have been undermined by slow and inconsistent implementation of the food program's structure and policies.

Shortly after public release of food program details, Western observers generally concluded that the changes were not radical, but merely marginal adjustments and realignments in the existing organizational structure and policies. 27/ Many of the food program's policy changes were not new, just old policies reworded and reemphasized. The economic changes suggested could provide the means and incentives for increased agricultural output. But, without significant structural changes, these output gains would be costly and possibly unsustainable in the long term. To quote Everett Jacobs,

The May 1982 Food Program and administrative reforms pay lip service to removing these shortcomings, but there is no reason to suppose that the new remedies will be any more successful than the old. The Soviet Unions' food problem is a consequence not only of unfavorable weather conditions but also bad economic and administrative management. Until the overall management system is fundamentally improved, we cannot expect to see a long-term, domestically generated solution to the Soviet food problem. 28/

Among possible shortcomings identified by Western observers were the large size and composition of the RAPO and higher level councils which could prevent them from becoming efficient decisionmaking bodies. 29/





Also, given the size and complexity of agro-industrial sector, the coordinating bodies would need time to identify and correct the problems they were to address, thus slowing improvements. The working organs of the councils were the same agricultural administrations existing before the food program, while the council members were to be representatives of existing enterprises. Thus, most of the RAPO participants were to be the very same organizations and people making up the previous inefficient, uncoordinated, and uncooperative decisionmaking structures, except they were to now meet within a new organizational structure. Previously dominant enterprises and organizations would likely be just as influential under this new structure and existing managerial or sectoral personalities and subgoals would probably not change for the common good.

There is little evidence that the food program's organizational and economic changes have significantly improved management, planning, and decisionmaking. The systemic deficiencies of centralized planning and socialist style agriculture remain. There is still little or no profit incentive for managers to introduce technological changes. Although the State increased procurement prices for many agricultural commodities in January 1983, resulting in increased farm profits during 1983, the effects of improved profitability tend to be short lived in the Soviet system.

Without the threat of bankruptcy, Soviet farm managers rely on State procurement price increases rather than improved production efficiency to increase profitability. The lack of competition between farms combined with extensive State support allow farmers to continue to use costly, inefficient production techniques that in a competitive environment might result in bankruptcy. The continued State support of inefficient, unprofitable, high-cost enterprises will guarantee higher than necessary overall production costs.

An additional impediment to the introduction of technological change in Soviet agriculture is the need for managers to rely on established supply lines. The introduction of a new, more efficient process may require inputs unavailable through current suppliers, thus requiring the potentially costly and unreliable process of establishing a new supply source. In many cases, the search for new supplies and suppliers results in production delays, nonfulfillment of important bonus indicators, and hence, lower bonuses for managers. Since suppliers do not have to compete with one another, farms and other enterprises will likely continue to receive poor quality inputs and services.

Without the discipline of the market, many of the desired improvements in the food sector will be difficult to accomplish. Under the food program, and the RAPO structure in particular, there is little indication of market forces being brought into play. Rather, the program apparently attempts to account for information normally contained in market-determined prices by improving coordination and cooperation between economic agents of the APK. The one weak attempt to introduce market forces by allowing the associations to set intermediate prices at clearing levels is most likely doomed. Since procurement prices are set independently of the prices of intermediate goods, the associations may find little profit incentive to implement this policy. Procurement prices are generally set lower than intermediate prices. Thus, even if an association takes advantage of this policy, it still might not operate





profitably. In addition, regulations have been introduced requiring ministry approval of intermediate prices set by the associations, effectively limiting their ability to adjust intermediate prices to clearing levels as needed.

#### Administration

The validity of some of the shortcomings predicted above has been supported by recent discussions in the Soviet press. RAPOs have not been completely successful in performing their appointed task of improved coordination and cooperation. Most press reports state how the new organizational structure has "created favorable conditions for increasing production and strengthening the sovkhoz and kolkhoz economies," and then discuss remaining difficulties and/or successes of individual oblasts, krais, or farms. 30/ Although the evidence presented is circumstantial, it is clear that old habits and methods die hard in the Soviet Union, and Soviet expectations of an immediate streamlining of the old administrative framework and improved production efficiency have not been met.

The organizational reforms eliminated over 3,200 trusts, associations, and other administrative organs in early 1983 and created 3,100 RAPOs, consisting of 52,000 state and collective farms, around 7,500 industrial enterprises, nearly 23,000 service organizations, and more than 17,000 other enterprises and organizations. In addition, each RAPO is expected to create subdepartments for such issues as interbranch relationships and planning, procurement, marketing, and processing agricultural products, as well as for labor and social problems. 31/ At higher administrative levels, 157 agro-industrial associations were created at the oblast, kray, and autonomous republic level. 32/ Despite the large number of newly created RAPOs, Soviet press reports claim that the size and operating costs of the new "streamlined" administrative apparatus are considerably less than those of the previous administrative structure. 33/ Given the rapidity and size of the organizational transformation, reports not surprisingly indicate that some RAPOs "have not yet, ...found themselves." 34/ RAPOs enter the administrative hierarchy at a relatively low level, thus their potential effectiveness at improving coordination and cooperation is quite limited (fig. 2).

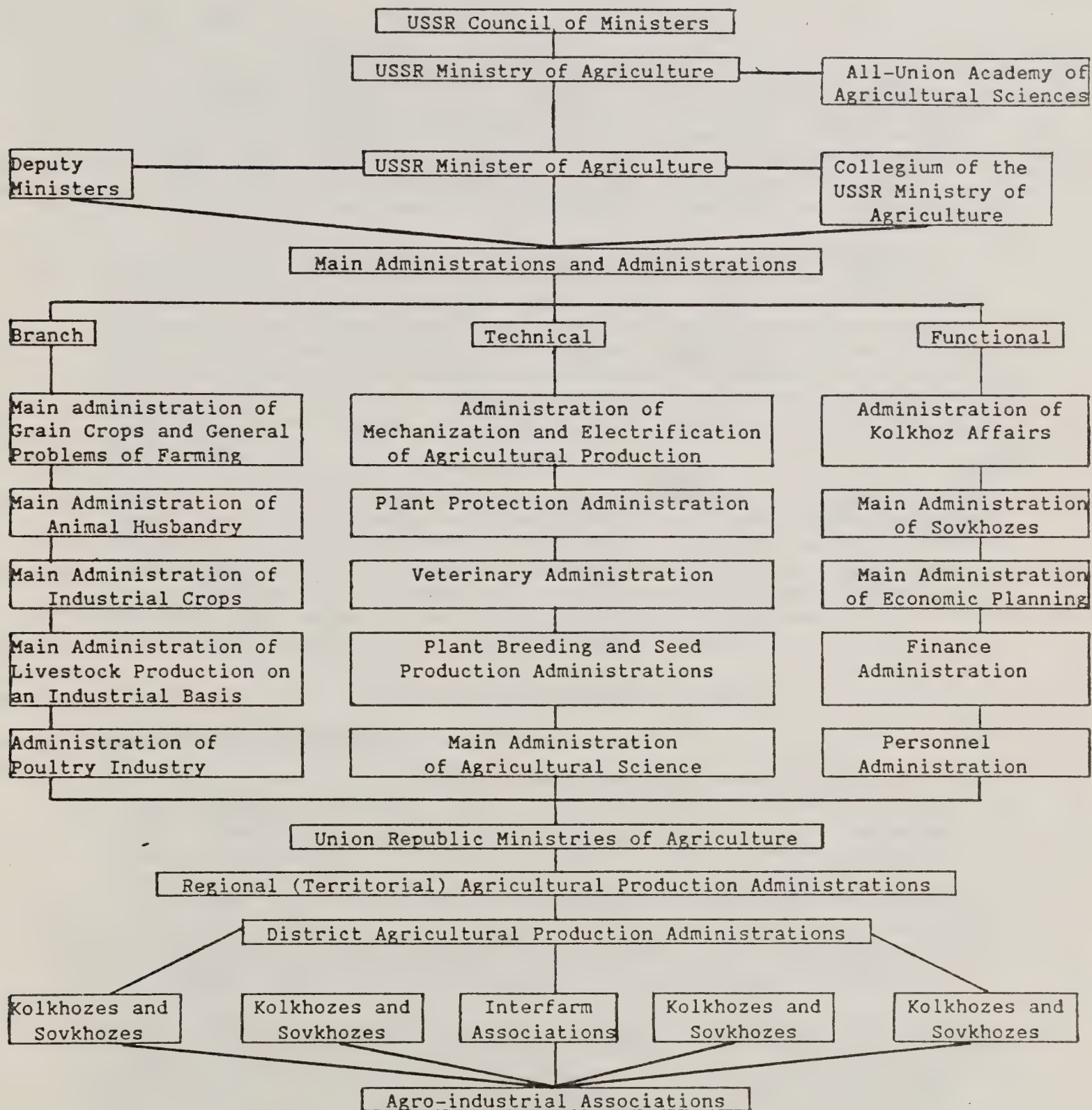
RAPOs have been criticized in the Soviet press for not exhibiting the necessary initiative or businesslike attitudes necessary to carry out their tasks. They have not always exercised their rights to: allocate investment funds as needed to ensure the balanced development of the APK, assign production-economic functions without regard to department affiliation, set intermediate prices at clearing prices for interfarm exchanges of inputs, or guarantee the economic equality of APK partners. 35/

Some RAPOs reportedly operate in the same fashion as did past agricultural administrations by meddling in problems "outside their competency" and worrying about "day to day affairs" rather than larger, more important issues such as balanced development between sectors and improved economic relationships between participants. According to A. Iyevlav, USSR Deputy Minister of Agriculture,





Figure 2:  
Structure of Administration of Agriculture in the USSR  
(Basic Subdivisions of the USSR Ministry of Agriculture)



Source: Valentin Litvin, The Soviet Agro-industrial Complex: Structure and Performance, Falls Church, Va., Delphic Associates Inc., 1985.





...procurement organizations, enterprises in the processing industry, Goskomsel'khoztekhnika and Soyuzsel'khozkhimiya are still frequently attempting to improve their own economies at the expense of sovkhoses and kolkhoses. 36/

In addition,

... in a number of places the centralized funds of the agro-industrial associations are still formed primarily at the expense of the kolkhoses and sovkhoses. As for the participation of the other enterprises and organizations in the matter, frequently a departmental approach is manifested here and the ministries which give jurisdiction over these enterprises do not always correctly orient them toward mandatory observance of the existing provisions. 37/

RAPOs have also had difficulty getting procurement organizations to implement the new procurement procedures, thus delaying any possible economic benefits that farms might gain. Even though the system is not expected to be fully in place until 1990, as time is needed to acquire the necessary capital stock, the procurement organizations have still been criticized for the slow implementation of the system. As of 1984, only one out of every four farms turned its livestock over to the procurement agency at the farm, and only one out of every five farms did so for milk. 38/

Farms are often given targets for sowing area, yields for agricultural crops, the number of cattle and their productivity, and "other indicators which the farms are both authorized to and obligated to determine for themselves." 39/ This indicates that excessive supervision of farms by central authorities continues even under the new management regime, and that the large number of indicators emanating from the central authorities continues to interfere with farm autonomy.

### Economic Performance Since 1982

#### Agricultural Production

Performance of the Soviet agricultural sector has been mixed since implementation of the food program. A comparison of 1983-84 value of gross agricultural output with the 1980-82 value indicates a respectable annual growth rate of 3.1 percent. However, the comparison is somewhat distorted as gross agricultural output declined during 1980-82 relative to 1977-79. Agricultural output growth over the longer period of 1977-79 to 1983-84 averaged only 1.5 percent per year. In addition, breaking the 1983-84 average into its individual components, we see that agricultural production stagnated in 1984 following a recordbreaking year in 1983.

Good weather, increased procurement prices, and a possible stimulative effect from Andropov's work discipline campaign most likely brought about 1983's record figure while unfavorable weather undoubtedly contributed significantly to 1984's stagnation. Still, many Soviet authors claim that poor management and organization exacerbate these weather effects on output and it is hoped that the food program will help minimize the negative effects of these nonweather factors. 40/



Table 3--Area, yield, and production of selected crops, USSR

Year	Grain	Seed- cotton	Sugar- beets	Sun- flowers	Potatoes	Vege- tables	Fruit, berries 1/
Area:		1,000 hectares					
1977	130,344	2,992	3,761	4,574	7,067	1,567	3,370
1978	128,465	3,038	3,763	4,558	7,042	1,646	3,345
1979	126,351	3,090	3,739	4,334	6,966	1,654	3,326
1980	126,608	3,147	3,710	4,353	6,936	1,715	3,297
1981	2/ 125,559	3,168	3,633	4,235	6,854	1,703	3,313
1982	2/ 123,012	3,188	3,526	4,250	6,856	1,719	3,341
1983	2/ 120,800	3,192	3,491	4,266	6,882	1,723	2/ 4,830
1984	2/ 119,600	3,347	3,463	3,907	6,830	1,744	2/ 4,830
Yield:		Metric tons per hectare 3/					
1977	1.50	2.93	24.8	1.28	11.8	NA	NA
1978	1.85	2.80	24.8	1.17	12.2	NA	NA
1979	1.42	2.96	20.4	1.24	13.0	NA	NA
1980	1.49	3.17	21.8	1.06	9.6	NA	NA
1981	2/ 1.27	3.04	16.8	1.10	10.5	15.9	3.6
1982	2/ 1.46	2.91	20.2	1.25	11.4	17.4	3.8
1983	2/ 1.60	2.89	23.4	1.18	12.1	16.9	2/ 3.8
1984	2/ 1.40	2.58	24.6	1.15	12.5	17.6	2/ 3.8
Production:		1,000 metric tons					
1977	195,727	8,758	93,099	5,904	83,652	24,149	15,275
1978	237,390	8,500	93,488	5,333	86,124	27,902	14,374
1979	179,176	9,161	76,214	5,414	90,956	27,215	16,303
1980	189,090	9,962	80,987	4,618	67,023	27,310	14,673
1981	2/ 160,000	9,636	60,844	4,678	72,139	27,099	17,287
1982	2/ 180,000	9,282	71,371	5,341	78,185	29,993	18,372
1983	2/ 195,000	9,221	81,813	5,040	83,060	29,071	18,392
1984	2/ 170,000	8,600	85,300	4,500	85,300	30,700	18,354

NA = not available. 1/ Bearing area. 2/ Estimate. 3/ Soviet reported yields vary from calculated yields in some instances.

Gross output in the crop sector increased by an estimated 3.2 percent during 1983-84 over 1980-82. However, comparison with the 1980-82 figure overstates the growth rate because of a general decline in crop production during 1980-82 relative to 1977-79. The 1983-84 estimate compared with the 1977-79 figure indicates an annual growth rate of only 1.1 percent. The majority of difficulties in the crop sector could be attributed to grains. Grain production during 1983-84 grew at 1.7 percent annually over 1980-82. But grain production, at an estimated 182.5 million tons, was still less in 1977-79, 1974-76, and 1971-73 (table 3). The food program targets average grain production during the 11th and 12th FYPs at 238-243 and 250-253 million metric tons, respectively. With 1 year remaining, the Soviet Union will be unable to reach even the lower end of the target range for the 11th FYP. Using the average crop figure for 1981-84, we see that an annual growth rate of 6 percent will be required to reach the





lower end of the target range of the 12th FYP. Although grain yields have not declined as much as production in the past 4 years, they would require an annual growth rate of 8.5 percent per year over the 1981-84 average to reach the 12th FYP figure of 2.1 to 2.2 metric tons per hectare. Grain area has declined steadily since 1977, with the average area during 1981-84 dropping 5 percent from the 1976-80 average.

Production of other crops has been mixed (table 3). To reach the planned production figures outlined in the food program, many crops will require growth rates substantially higher than past rates. Sugarbeet production in 1983-84 was 17 percent greater than during 1980-82, but 5 percent less than the 1977-79 figure. To reach the 12th FYP target of 102,000 to 103,000 metric tons, production will have to grow an average of 5.3 percent per year over the 1981-84 figure. Sunflower production during 1983-84 experienced an annual decline of 1.6 percent from 1980-82, and a fall of nearly 3 percent per year from 1977-79. Production will probably not meet the 11th FYP target of a crop of 6,700 metric tons, nor reach the 12th FYP target. Vegetable production grew 2.5 percent annually during 1980-82, and 3.2 percent during 1983-84. Yet vegetable production will also most likely fall short of the 11th FYP target. To reach the planned 12th FYP, vegetable production will have to grow an average of 4 percent annually over the 1981-84 figure.

Recent performance in the livestock sector has been superior to that of the crop sector, in part because of the larger imports of grain, oilseed meal, and breeding animals. Nevertheless, performance has fallen short of 11th FYP goals in most of the important commodities, and could have difficulty maintaining the necessary growth rates to bring production up to the 12th FYP targets. Output in the livestock sector grew 4.6 percent per year during 1983-84 over 1980-82, but relative to 1977-79 growth was substantially lower at 1.6 percent annually (table 4). Total meat production grew 4.5 percent during 1983-84 after stagnating during 1980-82. Growth will have to average 3.9 percent annually to reach the target for the 12th FYP. Beef and veal will need an average growth rate of 5.7 percent to reach its 12th FYP figure. Beef and veal growth during 1983-84 was 6.6 percent; however, as with overall livestock production, the longer term growth rate has been substantially lower. Poultry grew at an 8.4-percent annual clip during 1983-84, and 7.3 percent annually since 1977-79. Poultry should be able to reach its 12th FYP target of 3.4 million metric tons with only modest growth. Milk production, which grew 3.7 percent annually during 1983-84, needs a growth rate of only 1.9 percent annually to reach its 12th FYP target. Egg production is the only category where the average production figure for the 11th FYP has been attained. Growth of 1 percent annually should allow the Soviets to reach their 12th FYP target of 78 billion pieces. However, Soviet consumption levels for these last two commodities are already relatively high.

### Consumption

Food's share in the value of total retail trade declined from 55 percent in 1970 to 50 percent in 1984. The fall in food's share of total retail trade likely results from the price increases for nonfood consumer goods and an improvement in the supply of consumer goods (though not enough relative to demand growth), combined with supply constraints on foodstuff





Table 4--Production of principal livestock products, USSR

Year	Meat 1/						Milk	Eggs
	Total	Beef, veal	Pork	Mutton, lamb, goat	Poultry	Other		
<hr/>								
1,000 metric tons							Millions	
1977	14,722	6,888	4,950	894	1,691	299	94,929	61,194
1978	15,501	7,086	5,302	921	1,902	290	94,677	64,517
1979	15,341	6,903	5,268	863	2,034	273	93,130	65,585
1980	15,073	6,645	5,183	849	2,139	257	90,899	67,943
1981	15,200	6,627	5,220	846	2,255	253	88,874	70,855
1982	15,370	6,618	5,273	816	2,425	238	91,044	72,409
1983	16,450	7,011	5,760	837	2,596	246	96,450	75,110
1984	16,700	7,100	5,900	800	2,675	225	97,600	76,000

1/ Carcass weight, including fat. 2/ Estimate or preliminary.

availability. Soviet food prices for many important commodities have remained administratively set at artificially low levels since 1962. Thus, demand for many food products tends to exceed available supplies.

Per capita consumption levels of meat and fat rose to 60 kilograms in 1984 (table 5) and will likely increase in 1985 as a result of bumper domestic feed production in 1983 and record levels of grain imports in 1984/85. Still per capita consumption of meat and fat will have to increase 2.5 percent per year to reach the 1990 plan level, which itself is 15 percent below the stated Soviet consumption norm. On the other hand, the annual growth rates required for fish and fish products, and milk and milk products consumption to reach the 1990 plan figures are only 1.4, and 0.7 percent, respectively. Current consumption of these two products is already relatively high by world standards. Per capita consumption of vegetable oil, vegetables and melons, and fruit and berries have only slowly increased since 1982, and will require annual growth of 5.5, 3.4, and 6.6 percent, respectively, in order to reach 1990 plan levels. Per capita consumption of potatoes has remained at the 1990 plan level for the past 2 years while grain consumption has declined to its 1990 target level.

#### Investment and Inputs

The food program does not call for the agro-industrial sector to receive a higher share of total investment than in the past. Rather, it calls for a better balance of investment funds among the sector's participants. The Soviets feel that the agricultural sector has received too great a share of the agro-industrial sector's investment funds, hence preventing the agricultural input and processing sectors from developing fast enough to service the agricultural sector efficiently. The food program emphasizes the need to increase the share of agro-industrial investment going to these two sectors. If these two sectors remain underdeveloped, they will likely hinder overall agricultural



Table 5--USSR per capita consumption of selected food products

Year	Meat, fat	Fish, fish prod- ucts	Milk, milk prod- ucts 1/	Eggs	Vege- table oil	Pota- toes	Grain 2/	Vege- tables, melons	Fruit, berries
	<u>Kilograms</u>			<u>No.</u>	<u>Kilograms</u>				
1950	26	7.0	172	60	2.7	241	172	51	11
1960	40	9.9	240	118	5.3	143	164	70	22
1970	48	15.4	307	159	6.8	130	149	82	35
1971	50	14.8	300	174	7.0	128	147	85	39
1972	52	15.1	296	185	7.0	121	145	80	36
1973	53	16.1	307	195	7.3	122	143	85	41
1974	55	16.5	316	205	7.9	121	142	87	37
1975	57	16.8	315	216	7.6	120	141	89	39
1976	56	18.4	316	209	7.7	119	141	86	39
1977	56	17.1	321	222	8.1	120	139	88	41
1978	57	17.1	318	232	8.3	117	140	92	41
1979	58	16.3	319	235	8.4	115	138	98	38
1980	58	17.6	314	239	8.8	109	138	97	38
1981	57	18.0	304	247	9.1	104	137	99	40
1982	57	18.4	295	249	9.3	110	137	101	42
1983	58	17.6	309	253	9.6	110	136	101	44
1984	60	17.5	317	256	9.6	110	135	103	45
1990 3/	70	19.0	330	260	13.2	110	135	126	66
Norm 4/	82	18.2	405	292	9.1	110	115	130	91

1/ Including milk equivalent of butter. 2/ Flour equivalent. 3/ Plan figures. 4/ Narodnoe Blagosostoyanie SSSR, 1983, p. 165. (National Welfare in the USSR).

development. Even if Soviet investment policies succeed in raising output at the farm level, without the equipment to handle the increased harvest and the processing centers to process it, the increased food production will never reach the consumer. Although the Soviets explicitly recognize the complementarity of the input and processing sectors with the agricultural sector in the food program, as of 1984 there has not been a significant redistribution of investment funds to these sectors.

One area where the food program's stated policy appears to be implemented is in increased investment for rural housing, cultural facilities, and schools. This investment category has shown the fastest rate of growth of all agricultural investment categories. Like the input and processing sectors, this investment category has been relatively neglected over the years, hence the relative backwardness of rural areas which has





contributed to the rural labor force incentive problem. The current policy of increased investment in this area should help slow the exodus of highly productive workers from the countryside and raise overall labor productivity in agriculture.

Investment by state and collective farms has remained fairly constant since 1973 at around 24.5 percent of total investment (table 6). Investment in the entire APK averaged 33.6 percent of total investment during 1976-80, but dropped slightly to 32.1 percent during 1981-83. The decline, though small, is somewhat puzzling given the numerous statements about improving the material-technical base of all sectors of the APK. Agriculture's share of APK investment has increased from 80 percent during the 1976-80 period to 83 percent during 1981-83, while investment in related industries has declined. 41/ Thus, it appears that the decline in the APK's share of total investment between 1976-80 and 1981-83 has been absorbed by agricultural related industries while agriculture's share of total investment has remained relatively constant. It is not clear which related industries have received the brunt of the investment slowdown. One aspect evident from these figures is that much of the discussion in the food program of increased investment in agricultural related industries has not yet been acted upon.

The 1985 plan indicates that agriculture's share of APK investment should decline to 76 percent and investment in related industries should increase to 24 percent (see table 7). 42/ The 1984 plan, however, had called for a similar reapportionment which did not occur.

The food program also calls for "the comprehensive... re-equipping the food industry." 43/ Despite this claim, there has been no substantial influx of investment funds to this sector. 44/ After years of a declining share of total investment (from 3.6 percent in 1960 to 2.0 percent in 1978), the food industry's share levelled off at 2.2 percent during 1981-84.

Distribution of investment funds within the agricultural sector has shifted away from investment in construction and equipment of livestock raising facilities to increased investment in the construction of housing, schools, and other cultural facilities (which falls under the category of nonproductive investment), as well as greater outlays for tractors, transportation, and agricultural machinery. Decreased investment in the livestock sector is not consistent with the food program statements. However, this category did experience substantial growth in investment funds during 1971-75 period, increasing at an 8.6-percent annual rate. Over the period 1976-83, investment in this sector actually declined by 4 percent annually. However, the decline in investment appears to be concentrated in the construction of new livestock raising facilities, while investment in livestock-related equipment continues to increase. Increased investment in both the nonproductive sector and the agricultural equipment sector is consistent with stated food program goals. The rapid growth in the nonproductive sector, nearly four times greater during 1980-83 than the 1976-80 growth rate, most likely represents an attempt at improving rural living standards in hopes of stemming the outmigration of productive workers.

The growth rate of investment in agricultural equipment by farms during 1981-83 was only two-thirds of the 1976-80 growth rate. Although the





Table 6--USSR investment: Total and agricultural

Category	1975	1976	1977	1978	1979	1980	1981	1982	1983
<u>Billions of rubles</u>									
Total investment for productive and nonproductive purposes.	112.9	118.0	122.3	129.7	130.6	133.7	138.8	143.8	152.0
Total investment by state and collective farms	27.9	29.1	30.0	31.4	31.8	32.7	34.1	35.2	37.5
Construction of installations for production purposes and to acquire equipment, including:	23.3	24.3	25.1	25.8	26.4	26.9	27.6	28.0	29.0
Construction and equipment of livestock raising facilities, etc.	5.7	5.7	5.6	5.6	5.5	4.8	4.5	4.2	4.1
Water management construction	4.9	4.9	4.7	4.7	4.8	4.8	4.7	5.0	5.4
Electrification of agriculture	.6	.6	.7	.7	.7	.7	.7	.7	.7
Establishing orchards, vineyards, and other	.6	.7	.7	.7	.8	.8	.8	.8	.8
Outlays to acquire tractors and other equipment	6.9	7.5	7.8	8.7	8.8	9.3	9.6	10.0	10.5
Construction of installations for nonproductive purposes.	4.6	4.9	5.1	5.4	5.4	5.8	6.5	7.2	8.5

All data from various volumes of Narodnoye khozyaystvo. In 1973 prices.



Table 7--Capital investments in sectors of the agro-industrial complex as a percentage of the total capital investments made

Sector	1961- 1965	1966- 1970	1971- 1975	1976- 1980
		Percent		
Agriculture	16.9	19.3	21.7	26.0
Sectors of industry producing means of production for agriculture:				
automotive and agricultural machine building; mineral fertilizer production; industrial fodder production; microbiological industry; building materials industry	3.5	3.6	4.3	4.8

Source: Litvin, V. The Soviet Agro-industrial Complex: Structure and Performance, (Falls Church, Va. Delphic Associates Inc., 1985), p. 43. Also published in Kompleksnoye razvitiye sel'skogo khozyaystva i perevod yego na promyshlennuyu osnovu (Moscow: Institut Ekonomiki Akademii Nauk SSSR, 1983), p. 56.

1981-83 growth rate for the equipment category of 3 percent is not exceptionally high, it is still one of the highest growth rates for an agricultural investment subcategory. Despite heavy investment in this area, farms still are not adequately supplied with equipment, both in numbers and assortment. One article has implied that to adequately equip farms, production of agricultural equipment would have to double. 45/ Such an increase would be practically impossible as the industries responsible for the production of agricultural inputs have not received sufficient investment funds to keep up with the overall development of the agricultural sector (see table 7). 46/

Deliveries of tractors, combines, and trucks have continued at relatively high rates since 1976-80 (table 8). Scrappage rates, however, remain high and significant increases in inventories have occurred only in combines and trucks since the 1976-80 period. Quality problems still remain, and the lack of spare parts causes additional complications. An imbalance remains between the number of tractors and available agricultural machinery. Although a large number of tractors are delivered to farms each year, they tend to be less productive than planned due to shortages of plows, cultivators, harrows, trailers, and other types of agricultural machinery. One source indicates that, in 1965, for every ruble value of tractor there were 1.5 rubles worth of other machinery (in 1970, 1.4 and in 1975 and 1980, 1.3). 47/ In addition, the effectiveness of equipment has fallen steadily, from 351 rubles of agricultural products per horsepower during 1966-70, to 288 rubles in 1971-75, and 225 rubles in 1976-80. 48/ By 1981-84, this figure had dropped to 191 rubles of agricultural products per horsepower.

Although declining capital productivity is consistent with large increases in capital goods, the rate of growth in labor productivity has not been large enough to offset this decline in capital productivity.





Table 8--Tractors, grain combines, and trucks: Inventories and deliveries 1/

Year	Tractors		Grain combines		Trucks	
	Inven- tories	Deliv- eries	Inven- tories	Deliv- eries	Inven- tories	Deliv- eries
<u>Thousands</u>						
1977	2,458	365	693	101	1,501	268
1978	2,515	371	700	111	1,528	270
1979	2,540	355	706	112	1,568	267
1980	2,562	348	722	117	1,596	268
1981	2,598	354	741	105	1,653	268
1982	2,649	350	771	110	1,699	268
1983	2,697	373	794	116	1,725	2/ 285
1984	2,755	380	822	115	3/ 1,750	3/ 280

1/ Inventories are for the end of the year. 2/ Pravda, January 29, 1984.

3/ Ekonomika sel'skogo khozyaistva, no. 1 (1984), p. 4.

Western estimates of total factor productivity in Soviet agriculture show a steady decline over a long period of time. 49/ Using the above measure of agricultural production per horsepower as a measure of capital productivity, we see a decline of 46 percent since 1966-70. Over this same period, labor productivity increased only 37 percent.

V. Lazutin reports that fixed production capital increased by 34, 29, and 28 percent respectively in the RSFSR, the Ukraine, and Kazakhstan (the three largest agricultural producing republics in the Soviet Union) during 1981-83 over 1976-80. Over the same period, mineral fertilizer deliveries increased 17, 13, and 29 percent and energy capacities (tractors, combines, other motorized equipment, and portable generating units, all measured in horsepower) increased by 22, 22, and 13 percent. However, gross agricultural output grew by only 2.3 percent in the RSFSR, and actually declined by -1.6 and -3.7 percent, respectively, for the Ukraine and Kazakhstan. 50/

Delivery of mineral fertilizers to agriculture grew at an average rate of 9.1 percent during 1983-84 over 1980-82. But, to reach the 1985 food program target of 26.5 million tons, deliveries will need to increase by 14.7 percent in 1985 (table 9). Problems remain with losses during transportation, storage, and application. If these losses were eliminated, the savings could be equivalent to increasing deliveries by 10-12 percent, one source calculated. 51/

Since the implementation of the food program, there does not appear to have been a significant increase in construction rates for storage and processing facilities, rural roads, or other components of the rural infrastructure so lacking in the Soviet Union. 52/





Table 9--Deliveries of mineral fertilizers to agriculture by type

Year	Nitrogen	Ground phosphate rock	Phosphate	Potash
<u>1,000 metric tons 1/</u>				
1977	7,522	4,286	818	5,400
1978	7,658	4,551	809	5,394
1979	7,467	4,637	843	4,411
1980	8,262	4,760	830	4,904
1981	8,383	5,098	781	4,905
1982	9,038	5,344	771	4,991
1983	10,302	5,691	774	6,201
1984	10,279	5,858	767	6,167
1985 plan	3/ 11,600	2/ 6,900	2/ 800	2/ 7,188

1/ Nutrient weight basis. Nitrogen--20.5 percent N, phosphates--18.7 percent P<sub>2</sub>/O<sub>5</sub>, ground rock phosphates--19 percent P<sub>2</sub>/O<sub>5</sub>, potash--41.6 percent, K<sub>2</sub>O. 2/ Estimates. 3/ Vestnik Sel'skokhoziaistrennoi nauki #5 (1984), p. 27.

### Labor

There has been little narrowing of the spread between wage growth and productivity growth. 53/ Agricultural labor productivity during 1983-84 grew only 6 percent over 1976-80 while the average wage and salary in agriculture increased 15 percent over the same period. There has been continual emphasis on expanding the use of contract brigades which in 1983 operated on only 20 percent of sown area, increasing to 40 percent in 1984. This coverage is expected to reach 60 percent of sown area in 1985. 54/ The ability of these brigades to significantly narrow the gap between wage growth and productivity growth is uncertain. 55/ The brigades may be too large for members to feel the stimulation of individual incentives. The effects of any bonus payments may be limited as brigade workers receive most of their income in the form of monthly payments throughout the year and before all the harvest is in. In addition, contract negotiations between farms and brigades are not necessarily conducted on an equal basis. The farms are generally thought to dictate terms to the brigades, thus limiting the economic flexibility and incentive structure of the contract.

The agro-industrial sector employed 35 percent of the labor force in 1983, down from 40 percent in 1970. Despite this decline, the APK's share of employment remains disproportionately high, particularly in agriculture which accounts for 60 percent of the APK labor force. With many industrial sectors experiencing labor shortages, the Soviets desire to reduce the overall number of workers employed in agriculture, while maintaining or increasing the number of highly skilled agricultural workers. However, the slow growth of labor productivity in agriculture



makes this a difficult task to accomplish without a fall in agricultural production.

### Profits, Procurement Prices, and Subsidies

Following the January 1, 1983, procurement price increase, farm profits increased from an estimated 1.3 billion rubles in 1982 to 23.6 billion rubles in 1983. 56/ As noted earlier in this paper, Soviet agricultural production in 1983 reached a record 135.2 billion rubles, most likely a result of good weather combined with the stimulative effect that the procurement price increase had on production. The price increase averaged around 15-17 percent, and more than 30 percent if supplemental payments to low and unprofitable farms are taken into account. 57/

Despite the stimulative effect of this sizable price increase the main goal of economic self-sufficiency of farms has not been guaranteed. One report indicates that for sovkhozes alone, the percentage of total investment undertaken using the farm's own funds increased from 40 percent in 1982 to 46 percent in 1983. 58/ At the same time, reliance on the state budget dropped from 47 percent to 42 percent, and reliance on long-term credit from 13 percent to 12 percent. Although this is a short sample period, the readjustment in investment sources seems small given the magnitude of the increase in profits. Moreover, farm profits were reported to have fallen during 1984 to 18 billion rubles, raising questions about the sector's ability to continue this readjustment. 59/ The press continues to chastise many farms for unjustified reliance on state support, and cites numerous examples of farms operating under near identical natural and economic conditions but with dramatically different profit levels. 60/

The end result of the increased procurement prices and state support of inefficient farms is an increasingly costly agricultural sector. The result has been enormous subsidies to the agricultural sector with price subsidies on agricultural commodities increasing from 13.3 billion rubles in 1970, to 25.1 billion in 1980, and 54.7 billion in 1984. 61/ Food program policies have not yet significantly improved factor productivity or slowed the growth of input costs. Thus, the sources of high-cost agricultural production remain.

### CONCLUSIONS

Soviet policymakers, in developing the 1982 food program, correctly identified some of the underlying and secondary factors limiting Soviet agricultural production and productivity. These included poor coordination and cooperation between agro-industrial participants, unbalanced development of agro-industrial sectors, and inadequate labor incentives and low labor productivity. The remedies proposed in the food program appear inadequate. The Soviets' commitment to centralized planning, regional economic development, and relative income equality prevent the successful implementation of the market-type changes necessary to rapidly improve performance and productivity.

In the 3 years since the food program's official inception, the Soviet Union has recorded 3 of its top 4 years in terms of gross agricultural production. The primary reasons, however, for the increased performance have been better weather conditions and increased reliance on large-scale





grain imports. Despite the impressive production, many of the program's objectives have not been met. Soviet expectations about the degree to which RAPOs could improve cooperation and coordination, slow the growth in production costs, and increase output in the short term now appear to have been overly optimistic. 62/ The attempt to account for the lack of market type information exchanges through the establishment of RAPOs may have some minor positive effects on Soviet agriculture. The RAPO, however, has not eliminated the rigid and unbalanced planning procedures, lack of competition, intersectoral conflicts inherent in existing performance criteria, and the general lack of profit incentive.

The economic aspects of the food program have not had a significant impact on Soviet agricultural production. The procurement price increase of January 1, 1983, and increased aid to weak farms allows high-cost production to continue and will make it difficult for the Soviets to slow the growth of production costs. Investments in the agro-industrial sector remain high under the food program. Although a larger proportion of total investment funds was not called for, the program did call for significant intrasectoral reallocation. This has not been accomplished other than for the nonproductive sector. Investment in agricultural related industries has not increased significantly, particularly for the food processing industry and the agricultural input industries.

Investment in housing, cultural facilities, and schools has increased substantially in recent years, and may help reduce the outmigration of highly productive rural workers to the cities. The recently announced consumer goods program may also help raise rural labor incentives if it is successful in providing more and better quality consumer goods within a reasonable period of time. Despite severe shortages of paved roads and storage facilities, there has been no dramatic shift of resources to these areas. The lack of agricultural infrastructure remains a major weakness for the Soviet agricultural sector. The bottlenecks created by the lack of infrastructure, food processing facilities, and storage facilities will help to keep the return on investment in other areas of the agro-industrial sector lower than necessary.

Many of the intermediate production targets set for 1985 were not met, and the growth rates necessary to reach the 1990 targets for many products will be difficult to attain. The progress that has been made appears to have occurred at the margin and with great cost. Agricultural production in 1985 could rebound from 1984's stagnation with a possible stimulative effect from Gorbachev's leadership style (which has, to some degree, paralleled Andropov's work discipline approach) and the cooperation of the weather. However, it seems unlikely that these two factors alone could maintain long-term agricultural growth.

The prospects for the introduction of market type mechanisms into the Soviet agricultural sector in the near term under Gorbachev are unlikely. Significant changes in the food program are not expected either. Gorbachev played a large role in the formulation and implementation of the food program and is not likely to back down from such a high-profile program this early in his leadership. Adjustments, if they are to be made, will probably work within the system, attempting to fine tune its operation. Gorbachev may also try to invigorate the existing bureaucratic system by replacing high-level bureaucrats with younger, and potentially more innovative, people. Prospects for reform





in the long run are better. If agricultural performance continues to lag behind Soviet expectations up to the year 2000, then we might expect the Soviet leadership to try something more dramatic than adjustments to the current system, particularly if the reforms in Hungary and China continue to be successful. One possible hindrance to reform prospects would be a string of good weather, and the concomitant improved agricultural performance. This might mislead the Soviet leadership to believe that the improved performance was related to the food program policies rather than other, nonsystemic, factors.

#### ENDNOTES

1/ Kommunist, No. 9, June 1982. Although the food program was officially introduced in May 1982, its origins trace to a Party Plenum in October of 1980 and even earlier. See Markish, Yuri and Anton Malish, "The Soviet Food Program: Prospects for the 1980s," The ACES Bulletin, vol. 25, no. 1, Spring 1983, pp. 47-64.

2/ Ibid., p. 3.

3/ Population growth has averaged 0.8 percent per year over this period. Thus, per capita growth in foodstuffs has stagnated.

4/ Kufakov, V., "Improving Price Formation in the APK" Ekonomika Sel'skogo Khozyaystva, February 1984, p. 27.

5/ Note that these figures do imply that cost growth has slowed somewhat, from 4.9 percent to 4.5 percent over the two periods covered.

6/ For general discussions see, Dekhtyar', A., "Principal Organizational-Economic Factors Concerned with Reducing Losses in Agricultural Products," Planovoye Khozyaystvo, No. 8, August 1984 and "A Decisive Factor in Increasing the Well-Being of the People," Vestnik Stastiki, No. 5, April 1984, and Iyevlev, A., "The APK and Its Economic Aspects," Sel'skaya Nov', No. 6, June 1984, and Pavlov, O., "The Agro-industrial Complex in Action," Izvestiya, November 22, 1984.

7/ See Jacobs, Everett, "Soviet Agricultural Management and Planning and the 1982 Administrative Reforms," and Litvin, Valentin, "Agro-industrial Complexes: Recent Structural Reform in the Rural Economy of the USSR," both in The Soviet Rural Economy, ed. Robert C. Stuart (Totowa N.J.; Rowman and Allanheld, 1983) for earlier discussions of these and past reforms.

8/ Counterparts were also established at higher administrative levels.

9/ Kommunist, op. cit., p. 6.

10/ Ibid. pp. 12 and 57.

11/ Litvin, V. The Soviet Agro-industrial Complex: Structure and Performance, (Falls Church, Va. Delphic Associates Inc., 1985).

12/ Kommunist, op. cit. p. 32. This appears to be fairly standard rhetoric.

13/ Ibid. p. 12.

14/ Ibid. p. 13.

15/ Ibid. p. 56.

16/ Ibid. p. 56.

17/ As noted earlier, Jacobs and Litvin have discussed this issue.

18/ Kommunist op. cit. p. 58.

19/ Ibid. p. 57.

20/ Ibid. p. 59.

21/ Ibid. p. 63.

22/ Ibid. p. 64.

23/ Ibid. p. 63.





- 24/ Ibid. p. 32.
- 25/ Ibid. p. 9.
- 26/ Lazutin, V., "Reserves for Reducing Production Costs for Agricultural Output," Planovoye Khozyaystvo, No. 2, February 1985.
- 27/ Jacobs, Everett, also Litvin, Valentin, op. cit.
- 28/ Ibid. p. 292.
- 29/ Ibid.
- 30/ Iyevlev, A., op. cit.
- 31/ Zavgorodniy, A., "Economic Relationships Among APK Branches," Ekonomika Sel'skogo Khozyaystva, No. 6, June 1984.
- 32/ Nuriyev, Z., "The Agro-industrial Complex: Results and Immediate Goals," Ekonomika Sel'skogo Khozyaystva, No. 3, March 1984.
- 33/ Ibid.
- 34/ Ibid., see also Pravda, September 9 1984, p. 2, and Iyevlev, A., op. cit.
- 35/ For some examples, see Zavgorodniy, A., also Iyevlev, A., also Lazutin, V., op. cit.
- 36/ Iyevlev, A., also Zavgorodniy, A., op. cit.
- 37/ Paskar', T.A., "Regulating Cost Accounting," Sel'skaya Zhizn, November 1, 1984.
- 38/ Dekhtyar', A., op. cit., also Onishchenko, A., "Improving the Economic Mechanism of Selling Agricultural Products," Ekonomika Sovetskoy Ukrainy, No. 9, September 1984.
- 39/ Iyevlev, A., op. cit.
- 40/ For example see Pravda, November 26, 1984, p. 1, and September 25, 1984 also Kommunist op. cit.
- 41/ This is investment in the Total Complex of Works.
- 42/ Pravda, January 26, 1985.
- 43/ Kommunist, op. cit.
- 44/ For example see Pravda, January 1, 1985.
- 45/ Kurtsev, I., "Intensification of Agriculture," Ekonomicheskiye Nauki, No. 1, January 1983.
- 46/ Litvin, V. 1985 op. cit.
- 47/ Kurtsev, I., op. cit., also Dekhtyar', A., op. cit.
- 48/ Ibid., also Lazutin, V., op. cit.
- 49/ Cohn, Stanley, "Sources of Low Productivity in Soviet Capital Investment," Soviet Economy in the 1980's: Problems and Prospects, (Washington, D.C., JEC, USGPO, 1983).
- 50/ Lazutin, V., op. cit.
- 51/ Kurtsev, I., op. cit.
- 52/ Dekhtyar', A., also Zavgorodniy, A., op. cit.
- 53/ Nuriyev, Z., also Lazutin, V., op. cit.
- 54/ Waedekin, Karl-Eugen, "What is New About Brigades in Soviet Agriculture?" Radio Liberty Research, RL 47/85 February 18, 1985.
- 55/ This figure is attributed to Agriculture Minister Mesyats in an Attache Report to the Foreign Agricultural Service, U.S. Department of Agriculture, March 1, 1985.
- 56/ Lazutin, V., op. cit.
- 57/ Borkhunov, N., Yakovlev, S., and G. Kaliman, "On the Effectiveness of Mark-ups of Procurement Prices," Ekonomika Sel'skogo Khozyaystva, No. 11, November 1984.
- 58/ Val'tar, S., and I. Kononov, "Increase the Level of Financial and Economic Work in Agriculture," Ekonomika Sel'skogo Khozyaystva, No. 8, August 1984. See also Lazutin, V., op. cit.
- 59/ Pravda, January 26, 1985.
- 60/ Borkhunov, N., et al, op. cit.





61/ Semyonov, V. N., The Finance-Credit Mechanism in the Development of Agriculture, (Moscow: Finansy i statystyka, 1983), p. 142, and Ekonomicheskaya gazeta, no. 13, 1985, p. 7.

62/ Nuriyev, Z., op. cit.

